

22. Piece of Coral ?

23. Has passed into Limestone.

24. Cavity formed in a conglomerate by a *Teredo* : but the fish itself, which is petrified, resembles a cork-screw ; they are of various sizes, all larger at one end than the other.

I have many other shells difficult to sketch, and two species of *Cidaris*

I should be glad to have correct drawings presented to the Society, as the distance is so great, that the probability is my collection may never reach India, or even the eyes of a connoisseur. Each shell having fragments of the rock adhering, will also enable me to classify their geology whenever I may meet an experienced individual.

It may be well to state, that I met with no shells in any of the mountain formations between Cabool and Syghan, where fragments are first observable in a yellow sandstone.

The level of Bajgah above the sea is about equal to that of Cabool.

Proceedings of the Asiatic Society.

(Friday Evening, 5th March, 1841.)

The Hon'ble Sir E. RYAN in the chair.

Capt. W. SMITH, proposed at the last Meeting, was ballotted for, and duly elected, to whom the necessary communication of his election, and rules of the Society for guidance, was ordered to be forwarded.

The following gentlemen were proposed as Members ; viz.

WELBY BROWN JACKSON, Esq. C. S. proposed by J. S. TORRENS, Esq., seconded by the Secretary.

FREDERICK BEAUFORD, Esq. C. S. proposed by J. S. TORRENS, Esq., seconded by the Secretary.

WILLIAM MASTERS, Esq. Head Teacher, La Martiniere, proposed by Dr. J. M'CLELLAND, seconded by the Secretary.

Library and Museum.

Lardner's Cabinet Cyclopædia;—Geometry,	....	....	....	....	1
Smith's Miner's Guide, London, 1836, 8vo...	....	....	....	....	1
Chart to ditto, ditto,	....	....	..	....	1
Naturalist's Library;—Mammalia; Natural History of Dogs, by H. Smith,					
vol. 1st, Edinburgh, 1840, 8vo.	....	..	....	....	1

Naturalist's Library;—Introduction to Entomology, by J. Duncan, Edinburgh, 1840, 8vo.	1
Sleeman's Report on the Depredations committed by the Thug Gangs of Upper and Central India, Calcutta, 1840, 8vo.	1
Society for the encouragement of Arts, Manufactures, and Commerce, London, 1840,	p
Oriental Christian Spectator, vol. 1st, No. 11, and vol. 2nd, No. 1st, ..	p
London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science, vol. 17th, No. 110, October 1840, ..	p
London and Edinburgh New Philosophical Magazine and Journal of Science, 3d. Series vol. 15th, Nos. 98, 99, and vol. 16th, Nos. 100, 101, and 103,	p
Magazine of Natural History, New Series, vol. 4th, No. 40, ..	p
Calcutta Monthly Journal and Repository of Intelligence, 3d Series, No. 69, August 1840, and No. 70, 74, for 1841, ..	p
Annals and Magazine of Natural History, No 35, October 1840,	p
Letters and Papers from the Société Royale D'Agriculture et de Commerce de Caen (leaf,)	p
Journal des Savants, Aout, 1840,	p
Annals de Chimie et de Physique, per Gay, Lussac et Arago, Tome 72, October 1839,	p
Glossarium Sanscritum, a F. Bopp, fasciculus, 1, Berolini, 1840,	p
Geneological Table of the Posterity of Timur, (in Persian) in leaf, ..	p
On Batta; Manuscript, (in German,)	p

For Distribution.—

(Notice,) on Tea from Assam,	12 Copies.
(ditto,) on Bengal Silk,	12 ditto.
(ditto,) on Jungle Silk,	12 ditto.

A Frame containing various coloured glasses;—presented by D. McFARLAN, Esq.

Victoria Armenian Spelling Books;—presented by Mr. J. AVDALL.

Burmese palm-leaf book with figures;—presented by Capt. McLEOD.

A box containing several impressions of coins in Sealing-wax;—

The plan of the Ghât to be erected to the memory of the late Jas. PRINSEP, Esq.;—presented by R. H. RATRAY, Esq.

The Secretary submitted a copy of the “Bon Zeen,” a Burmese Work on Natural Philosophy, of ancient date;—presented by Captain W. McLEOD.

Read a letter from W. DUNBAR, Esq. Assistant Surgeon, 5th Irregular Cavalry, intimating the discovery of a coal bed in a village named *Bullea*, situated about 14 miles to the south of Hazareebaugh.

“On the banks of the *Suncherai*, a small nullah,” writes DR. DUNBAR, “running into the *Haharoo*, I first saw the coal, in a bed about three feet in thickness, with a gentle dip or inclination to the west. It was splintery, very black, lying below a friable sandstone and alluvium containing konkur. The bed seemed to be of great extent, and I have no doubt that any quantity of coal can be procured at this place.

I brought some specimens, and found that those from near the surface did not burn well, the other burned very well indeed, without a great deal of smoke, and leaving an inconsiderable quantity of ashes."

Read a letter from Mr. Secretary BUSHBY, of the 30th December 1840, enclosing copy of a dispatch from the Honorable the Court of Directors, requesting that the Asiatic Society will enable the Government to carry into effect the wishes of the Honorable Court in respect to all Zoological and Entomological Collections deposited in their Museum on the part of Government, or by persons conducting Missions on the part of the Government.

Resolved—That the papers be referred to the Officiating Curator for his Report.

Read a letter from Professor WILSON, of 12th October 1840, offering copy of two Lectures by him, on the religious belief and practices of the Hindoos.

Read a letter of 16th May 1840, from the Secretary to the Society of Antiquaries of London, forwarding the 28th vol. of *Archeologia*, for the use of the Library of the Society.

Read a letter from the late Lieut. W. LOVEDAY to Lieut. Col. STACY, with a sketch by the deceased of the Etawah Chuttree (in the vicinity of Neemuch) and copy of the inscription found there.

Lieut. LOVEDAY writes, "I have but little to add by way of information, merely that returning one day from shooting, wearied and unsuccessful, I was much struck with the elegant appearance of this Chuttree; and resting under its shade, examined with surprise, and no little gratification, the elaborate sculpture of the pillars, of one of which I send you a separate sketch; the date of the inscription (Sumbut 1130) caught my eye, when I immediately transcribed the whole. I do not send you a translation, as the Devee Nagree is clear and easily read, with the exception of two or three words, which our Calcutta friends will soon rectify. The inscription is on an upright stone slab, on the top of which are sculptured in alto-relievo, eight figures, representing the Rajah and his seven wives, to whose memory the edifice has been raised."

Read a letter, dated Cabool 24th December 1840, from Capt. W. E. HAY, reporting the loss of the whole of his fossil shells (sketches of which he had furnished) on the retreat of the Shah's 4th Infantry from Bajgah, together with many other valuable collections of coins and geological specimens, and all his drawings. Captain HAY adds, however, that he had accumulated a number of others from Bokhara, Samerkand, Balkh, &c. enclosing at the same time, some impressions of apparently ancient Hindoo coins.

Read a letter from Lieut. Alex. Murray MACGREGOR, of 31st January 1841, with casts of coins intaglio.

He writes "I have sent cast of a Jupiter seated on a throne, holding a Minerva on the palm of his right hand, a sceptre occupies his left, and the Eagle is

seated by his right foot; it is an intaglio found at Rome, during some excavations there, and given to me by a gentleman lately arrived from Europe, viâ Rome and Naples. The other is an *Ibex* of the Alps, found at Pompeii by the same person. Both are cut out of cinnamon-coloured agate, or perhaps a species of ruby, for it partakes of both, though more of an agate. The Cupid I found last February at Kanoje; it likewise is on a cinnamon-coloured agate, but does not seem a very well cut gem. I cannot find the gold coin mentioned in any of the Prinsep Plates. One of the casts is of a silver penny of George III; curious only in not now being a current coin."

Read a letter from Lieut. H. COMBE of 12th December 1840, forwarding a drawing of a coin in his possession for my information, with reference to the letters marked thereon. On the coin are figures; that with the spear is evidently male, with a glory round the head, the other with a crescent is a female. On the obverse is a male figure naked to the waist, with a fanciful tail.

The Secretary informed the Meeting that the subjects of the four foregoing communications would be noticed in the Asiatic Journal more fully, with lithographed drawings of the sketches by Lieut. LOVEDAY, and of the impressions of such of the coins as have not been already noticed.

The Secretary noticed the presentation by D. MCFARLAN, Esq. of a handsome stained window-glass.

Read a note by the Secretary, with an estimate of charges for preparing coloured lithographed copies of the late Dr. LORD's Zoological Sketches of Cabool, and suggesting the reference of the choice of sketches to be published to a Sub-Committee, whom the President would request to undertake that duty, in communication with the Curator of the Society.

Dr. HUFFNAGLE and Dr. SPRY were selected by the President to form the Committee, and on the motion of Professor O'SHAUGHNESSY, the name of Dr. PEARSON was added. To the discretion of these gentlemen, was left the sketches to be selected for publication. On the motion of Professor O'SHAUGHNESSY, seconded by the President, Dr. PEARSON's name was also added to the Committee of Papers, to supply a vacancy.

Read a letter of 18th May, 1840 (of which the following is a copy) from Professor D. FORBES, of King's College.

To the Secretary of the Asiatic Society of Bengal.

Sir,

London, 8 Alfred Street, Bedford Square, 18th May 1840.

I should not have deemed the accompanying trifling essays of sufficient importance to be offered to your Society, were it not that a *complete copy* of the *Jâmi al tawârikh*

has been just discovered among the MSS. of the India House. It is a copy of the original Persian, transcribed A.H. 1081 and 1082, and belonged to the celebrated Dr. LEYDEN. It contains the whole of the author's Historical Works except the lives of Gházán Khán and Uljayto Khán, which may be considered biographical rather than historical. I have now the volume before me, through the kindness of Professor WILSON, who for many years was the ornament of your Society. Of this precious work, I am now engaged in drawing up an abstract for the next number of our Journal. The accompanying letter which appeared in our last number refers to the Arabic version of the work, which unfortunately is incomplete; perhaps by the exertions of your Society the lost fragments may yet be recovered, and I venture to say that we have still public spirit enough among us to publish this second volume both in Persian and Arabic if procurable. You have of course received Quatreméré's magnificent volume on the life and reign of *Hulagon Khan*. The portion of the author's works which we wish to publish, would be infinitely more interesting, particularly the histories of *China*, *India*, and the *Franks*, all of which are perfect in the Persian volume now before me, though none of them is quite complete in the Arabic. Should your Society be in possession of either the Persian or Arabic, would you kindly inform me of the same, and oblige,

Yours obediently,

D. FORBES.

A letter, read at a late Meeting of the Royal Asiatic Society of Great Britain and Ireland, on the recovery of a (supposed) lost volume of the *Jámi al Tawárikh* of *Rashidud-dín*.

P. S.—Since the above letter was printed in the Society's Journal; a complete copy of the *Jámi al tawárikh* in Persian has been found in the *Leyden* collection of MSS. now in the East India House Library. An analysis of this rare volume will appear in the next number of the Society's Journal.

D. FORBES.

8 ALFRED STREET,
18th May, 1840.

'Letter of Professor Forbes, on the Recovery of a lost portion of the Jámi al Tawárikh.

'SIR,

'Mr. W. MORLEY has kindly presented to me a copy of his interesting letter addressed to Major-General Briggs, respecting the portion of the *Jámi al Tawárikh*, now in the Society's Library. About the time when Mr. MORLEY's communication was passing through the press, I accidentally fell in with a much larger portion of the *Jámi al Tawárikh*, comprising one half the original volume, of which the Society's fragment forms about one-fifth. The two fragments have been clearly proved (as you will perceive hereafter) to be parts of the same grand original; and it is curious enough, that after many years, perhaps centuries of separation, they should have at last met in a portion of the earth so remote from their native city.

'That portion of the *Jámi al Tawárikh*, which forms the subject of the present hasty and imperfect communication, belonged to the late Colonel John Baillie, a distinguished member of the Asiatic Society. Shortly after the death of that eminent Orientalist, his house in town was let, and his books and manuscripts were temporarily removed to the house of a friend in Soho Square, previous to their being con-

veyed to the family estate in Inverness-shire.* They have remained however undisturbed in Soho Square ever since. A few weeks ago I happened to have a pupil who lived in the same house, and from his description of some of the MSS. I felt and expressed my wishes to see them, in which request I was most readily indulged.

‘The first, indeed I may say the only, work that caught my attention was a large Arabic manuscript of a historical nature, written in a beautiful and very old Naskhi hand, with many pictures very creditably executed, all things considered. On the back of this rare volume is written in a distinct Persian hand “*Tārīkh i Tabarī*,” and as if this were not sufficient, there is a note written in Persian, on a blank page, folio 154, of which the following is a literal translation—“The name of this book is *The Tārīkh i Tabarī*, (the History or Chronicle of Tabari,) the author’s autograph. The whole number of leaves when complete, amounted to 303; now however, some one has stolen and carried off one half of it, or about 150 leaves. It was written by the author’s own hand, in the year of the Hegira 706 (A. D. 1306-7).”

‘The information intended to be conveyed in this note, is, unfortunately rendered very suspicious, by the date given in the conclusion; as Tabari had flourished some 450 lunar years earlier. On examining the work itself, I found that the Muhammedan history came down to the last of the Khalīfas of Bagdad; hence it could not be the original Tabarī. As D’Herbelot, however, has mentioned two writers who have continued the history of Tabarī down to their own times, I thought this might possibly be one of them, and in order to verify the circumstance, I took the Persian version with me next day to compare them; but after making the most liberal allowance for the freedom generally used by Oriental translators, I found that the two could never have been intended for the same work.

‘Resolved, if possible, to arrive at some satisfactory conclusion respecting the MS., I requested a very intelligent native† of India to accompany me to see it. The moment this gentleman looked at it, he told me that whether it was Tabarī or not, he had seen the identical book some months back in a house where he visited. On further inquiry, I learned that the book to which he alluded belonged to the Asiatic Society. Next day I examined the Society’s MS. and found, as I had concluded, that it forms part of the *half* that is missing in Colonel Baillie’s MS. In proof of this, I may mention that the ink and the handwriting are the same in both. The length and breadth and number of lines in each page are the same, and the paintings are in the same style in both. The works had been numbered originally by leaves or folia, as is usual in Oriental MS.; these numbers still remain on the second page of each leaf, and every leaf of the Society’s fragment is missing in Colonel Baillie’s work. There is no question then, that as Sádi hath it, “they are limbs of one another,” for assuredly they originally consisted of but one work.

‘Colonel Baillie’s MS. contains at present 151 folia or leaves, being as nearly as possible one half the original number, as stated in the Persian note. The last leaf is numbered 218, so that sixty-seven leaves are wanting to complete the work from the beginning to the last leaf now remaining. Of these, there are seven leaves in the Society’s fragment on the history of Muhammad. They are numbered (in their order) 57, 58, 63, 64, 66, 70, and 74, all of which are, of course, missing in Colonel Baillie’s MS. If these seven leaves were restored to their places in Colonel

* Colonel Baillie’s Books and Manuscripts are entailed property.

† Mír Afzal Ali, Vakíl from the Maharáj of Satára.

B.'s MS. and the remainder of the Society's fragment subjoined, they would altogether form a volume of 210 folia, there being still a deficiency of ninety-three leaves. This goes on the supposition that the number originally consisted of 303 leaves, as stated in the Persian note.

The contents of Colonel Baillie's MS. may be conveniently classed under three distinct heads.

'1st. From the commencement to folio 41.

'This portion of the work is perfect, with the exception of the first and second leaves; but the loss of these is greatly to be lamented, as they may have contained a general account of the whole volume, and an outline of its contents. This part is occupied with the history of Persia and Arabia from the earliest times down to the birth of Muhammad. At the same time the author has inserted, apparently in chronological order, copious accounts of the patriarchs and prophets of the Old Testament; also of Alexander the Great and his successors.

'2nd. From folio 41 to folio 154.

'This portion commences with the genealogy and birth of Muhammad. It then gives a minute account of his life, and the history of his successors down to the capture of Bagdad by Húlakú Khán, A.H. 654—A.D. 1256. This part of the work is strictly confined to the history of Muhammad and the Khalífás, the events of each year being detailed separately, with the date prefixed. In this division there are missing altogether forty-six leaves; but by replacing the seven leaves already mentioned as contained in the Society's MS., the lacuna will be reduced to thirty-nine, the greater part of which occurs between folios 70 and 107 inclusive, which treats of the history of the early Khalífás. From folio 107 to 154 there is no hiatus.

'3rd. From folio 154 to 217.

'The third part treats of the history of Persia under the Ghaznavi, the Saljúki, and the Atabeg dynasties. Like the first, it is of a somewhat miscellaneous character: the history of Persia is its leading feature. At the same time the author notices, in chronological order, such illustrious personages and remarkable events as came within his knowledge among other nations, particularly among the Christians. In this portion there are nineteen leaves missing, and these being towards the end, I cannot say how far the history extends—probably to the author's own times.

'Folios 217 and 218, (the last in the volume,) are occupied with the history of the kings of Kh'árizm. How much of the original volume this subject occupied is uncertain. From 219 to 248 inclusive, there is a breach which, for the present, we cannot repair. At folio 249 the Society's MS. commences the history of Khata, and proceeds uninterruptedly to folio 300, *if* we could put faith in numbers, of which more hereafter.

'Supposing then the two MSS. were re-united, there would still be *at least* the following deficiency:—

	Fol.
In Part 1st, containing the preface, &c.	2
In — 2nd, Muhammad and the early Khalífás, .. .	39
In — 3rd, the latter history of Persia, &c.	19
Between fol. 219 and 248 inclusive, (subject uncertain) ..	30
Folia 301, 302, and 303, at the end	3
	—
Total	93

‘I have reason to suspect, however, that the volume consisted originally of more than 303 leaves. In the Society’s MS. there is a lacuna of some leaves in the life of Shakhmuni, while the numbers of the folia proceed without any interruption. This can be accounted for on the supposition that the folia were numbered some time after the work was written, but previous to its present dismemberment; and it will be perceived that the ink used in the numbers differs considerably from that of the text. The person who wrote the numbers may have known as little about the nature and contents of the work as the writer of the Persian note, who called it *The History of Tabarî*; and hence, I should think, arose the mistake.

‘I have no means of ascertaining in what part of India Colonel Baillie procured his MS., but I should say, most probably at Lakhnau, where he was long resident. That the Society’s fragment came from that quarter, within the last fifteen or sixteen years, can be easily proved. There is a duplicate of the life of Shakhmuni in the Society’s Library, transcribed at Devî, a village or district of Lakhnau, in May, 1823*. That this was done from the Society’s original is all but certain, for the same hiatus occurs in the copy as in the original. The transcriber there mentions, in a note, that “there is *one* leaf missing (in the original);” but I am afraid, if we judge from circumstances, that *ten* leaves would have been nearer the mark. In the life of Shakhmuni there are twenty-one sections, of which about ten are lost (from the seventh to the seventeenth). Each section before and after the last part occupies at an average a single leaf. I cannot believe, then, that the ten lost sections could have been comprised in one leaf, particularly as what remains of the seventeenth section alone occupies a leaf and half a page. It is not unlikely, then, that there may be other lacunæ which may have escaped the notice of the person who numbered the leaves—a point which can be ascertained only by a careful perusal of the work itself.

‘Should this brief account be deemed worthy of insertion in the *Journal of the Asiatic Society*, (perhaps, in company with Mr. Morley’s more ample communication,) it may prove the means of exciting our numerous Orientalists in India to make inquiries for the remaining fragments of this rare volume.

‘There is every reason to suppose that both the portions of the work now in London, came from Lakhnau; and in that quarter it is probable the rest may yet be recovered. Mr. Morley has given an accurate fac-simile of a portion of folio 74, and I may add, that where no breaks occur, each page contains thirty-five of such lines. Finally, such numbers as I have stated to be missing, will, most probably, have remained on the leaves of the lost fragments, which may thus be easily identified.

‘Nearly two years ago I had the honour of requesting the attention of the Society to some rare Oriental works mentioned in a Persian catalogue of the library of Farzáda Kulî, or some such name. In the historical department of that catalogue, one of the first books entered is, “*The Chronicle of Tabarî*, the author’s autograph, in the Arabic language, with *seventy* pictures of Saints, his Eminence the Prophet, and sundry kings, very rare.” Now I strongly suspect that the work here described, is none other than Colonel Baillie’s MS. of the *Jâmi al Tawârikh*. The number of pictures in Col. Baillie’s half, is really *seventy*, and among these is a portrait of Muhammad. The writer of the catalogue received the work as he found it marked on the back, and in the Persian note, folio 154, without troubling his head about its contents. What

* Vide Mr. Morley’s Note, page 23.

renders this supposition still more probable is, that the *Jāmi al Tawārikh* is not mentioned in the catalogue as one of Farzáda Kuli's books. Upon the whole then, there is good reason to infer that Colonel Baillie's MS. some forty years back, was one of the many rare works described in the catalogue of Farzáda Kuli's library; and if that treasure be not ere now dispersed, I should suggest that search should be made for it in the kingdom of Oude.

'Before I conclude these hasty remarks, I cannot help observing that the *Jāmi al Tawārikh* does not seem so very scarce a book among eastern writers,* as M. de Quatremere would lead us to suppose. It is inferred, for instance, that Mirkhond and Khondemír were either ignorant of its existence, or borrowed from it without acknowledgment. Now the fact is, that Mirkhond, in the preface to the *Rozat-al-saffa*, mentions this very work as one of the sources to which he was indebted for his materials. His words are,† "Kh'āja Rashíd tabfīb, sāhib-i Jāmi, that is, Khāja Rashíd, the physician, author of the *Jāmi*," i. e., *The Collection*, or *Universal History*. Of Khondemír, I do not happen to possess a copy, but at all events, there can be no reason to suppose that he was ignorant of the *Jāmi*, as he *must* have read the works of his immediate predecessor, Mirkhond. It would be endless, as well as useless, to mention other writers who allude to the *Jāmi al Tawārikh*. In the introduction to the fourth volume of the *Kimiya-e-Sa'ádat*, the author expresses his obligations to the *Jāmi al Tawārikh*, of Kh'āja Rashid, the wazīr. Even the very thieves who stole the Society's fragment out of the volume now in possession of Colonel Baillie's successor, seemed to have very well known what they were about, for the fragment is marked, "*az Jāmi al Tawārikh*," i. e. out of the *Collection of Histories*.

'In the Society's MS., No. 14, already alluded to as being a duplicate of the old fragment of the life of Shakmuni, there is prefixed (in Persian) an account of the author and his works, of which, as it is not long, a translation is here subjoined. "It is well known that the *Jāmi al Tawārikh*, compiled by Kh'āja Rashid al-dīn, contains a history of the whole world, both as regards the lives of the prophets, and the manners and conduct of the kings of every region. In the same work the writer hath also given a sketch of the history of India; for he had learned something of the tenents of the sages of that country from (competent) people, and part (of his information) he had from the book of Abul rihān Birūnī, who having frequently travelled to India in the service of Sultan Mahmūd, the son of Sabactagin, had held intercourse with the sages of that country. After he had made thorough proficiency in the science of the Indian philosophers, he translated, from the Indian language into the Arabic tongue, the book of Patankal, or Patanjal, which is a collection of all the sciences,

* It has been suggested to me, that the *Jāmi al Tawārikh*, alluded to by Mirkhond, &c., refers only to the *Tarikh i Gházāni*, or first volume, but not to the last three. I must say, however, that I cannot perceive why these writers should have so misapplied the term *Collection of Histories*, to the history of a particular nation, which, besides, had a separate title of its own. I may further mention that, in a MS. in my possession, entitled *Majma al Gharāib*, the *Jāmi al Tawārikh* is quoted on a matter of chronology which is assuredly from the latter volumes, stating that, "from the fall of Adam to the birth of Muhammad there had elapsed 6102 years, six months, and ten days!"

and one of the most valuable works of the sages of Hind, (like the *Kitab i Shaffa*, by Shaikh al-rasi.) It contains an account of all their various sects, and the history of their ancient kings, also the life of Shakmuni, who according to their opinion, and the testimony of Kamakshari al Bakhshí al Kashmírí, is the guiding prophet of the people of Hind and Khatá. To this work he gave the name of *Patanjal*, a copy of which he carried away with him.

"Since the history and actions of Shakmuni, who was once the prophet of the people of India, have, through the lapse of time, sunk into oblivion, I, the meanest of God's servants, Abd ul Kádir, resident of Devi, of Lakhnau, have transcribed the following account of him from the *Jámi al Tawárikh*. And, at the request of the high in dignity and rank, Major Herbert, I have made a translation of it into easy Persian. In certain parts the original was defective and obliterated; these defects, with their proposed corrections, I have marked on the margin. Deo soli scientia."

"I have nothing further to add respecting this rare and ancient work, except to express my regret that it has not been deposited in the Society's library, where it might be accessible to Oriental scholars. There may be other valuable MSS. in Colonel Baillie's collection, which I have not had time to examine; and I shall only mention here, a very fine copy of the *Mahábhárata*. It is beautifully written on one roll of fine paper, laid on cotton or silk, and abounds with well-executed paintings, representing most of the complicated events described in Hindu mythology. I believe it contains the whole work, as the writing is extremely small, though very distinct. The roll is about 220 feet long, and I should say from four to five inches wide within the margin, which is ornamented and illumined throughout."

I am, Sir, yours faithfully,

S, Alfred-street, Bedford-square,
26th October, 1839.

D. FORBES.'

"P.S. In the preceding letter I have alluded to a Persian MS. in the Society's possession, entitled a *Catalogue of the Library of Farzáda Kuli*. This work is frequently quoted by my friend M. Garcin de Tassy, in his *Histoire de la Littérature Hindoui et Hindoustani*, lately published; for which reason I beg leave to subjoin the following extract from an account of it, which was read at one of the meetings of the Royal Asiatic Society in 1838.

"The accompanying MS. is a catalogue of books in the Arabic, Persian, and Hindu languages, amounting, on a rough estimate, to upwards of 2,000 volumes. It is fairly written and well arranged, the works being classed under the different subjects of which they treat, as may be seen by referring to the second blank leaf at the beginning, where I have given an abstract of the contents.

"Of the works here mentioned, many, I believe, are unknown, even by name in this country; but there is one in particular which merits attention, as it has been long given up for lost by the Orientalists of Europe. I allude to the *original Arabic text of the Chronicles of Tabari*, which is here described (p. 10) as follows:—'The Chronicles of Tabarí—the Author's Autograph, with seventy portraits of prophets, his Eminence the Apostle, and various princes, IN THE ARABIC LANGUAGE—RARE.'

"Here then it is evident that the original of *Tabari* existed (in all probability) in India within the last forty or fifty years. Unfortunately there is no date, nor name of person or place mentioned in the book, from which we could discover of whose library

it is the catalogue. The last words are the writer's name, *Dávar Bakhsh*, a piece of information of no great consequence. On the first blank leaf some one has written, barbarously enough, in Roman characters*, what I believe is intended for Persian, and apparently signifies, 'A Catalogue of the Library of *Ferzada Kole*;' but even this affords us very little enlightenment. I am led, however, to infer from circumstances—in the first place, that the book has been written within the last forty or fifty years; this is evident from its mentioning (p. 90) *the Diwán of Sauda*, a Hindustani poet, who died only a few years before the commencement of the present century. Secondly, it is a catalogue of the library of *some prince*, as may indeed be inferred from its extent, but still more from an expression that occurs in page 95, viz., 'A list of the books remaining in the old chest belonging to his August and Sublime Highness.' Thirdly, and lastly, there is every reason to infer, that the prince alluded to was Indian, from the number of Hindí books mentioned in the Catalogue, and in the list referring to the old chest aforesaid.

"If the above inferences may be relied on, we have reason to hope that the original and genuine text of Tabarí, the Livy of Arabia, may yet be recovered. It would seem that an ancient manuscript of it did lately exist in India, and is, in all probability, there still. As to its being the *autograph* of the author, I believe we are to take that expression 'cum grano salis' as we do the *originals* of Corregio and Rubens, &c., so very plentiful among picture-dealers and amateurs. But whether the MS. here alluded to, be, or be not, the author's own copy, is a question of minor importance. The main object is to rescue it, ere it be too late, from that state of obscurity in which it at present lies, and to that end I have been induced to lay this brief and imperfect notice of it before the members of the Asiatic Society. It is probable that some individual out of that learned body may be able to trace the history of the MS. catalogue here presented. The booksellers from whom I had it, could tell me nothing as to whence it came, or whose it had been.

"It would be tedious to notice many of the rare works mentioned in the catalogue; there are a few, however, which I cannot pass over. In page 11, we have 'The *Mustafa Náma*, in the metre of the *Shahnáma*, containing the history of Persia (or rather of Islámism) from Muhammad to Tahmasp of the Sufi family, amounting to 104,000 couplets, beautifully written, and ornamented with gold dust.' Such is the literal translation of the description given of this stupendous work, which is very nearly *twice the size* of the *Shahnáma*, and embraces a period of about a thousand years.

"Further on, among the works on Philosophy, Logic, and Rhetoric, are mentioned several pieces translated from Aristotle, Plato, and other wise men of Greece, all of which are highly interesting. There is also a Persian translation of the *Makámát* of Haríri, which would be invaluable in explaining many passages of that learned, but, to us, obscure writer.'

"To the above remarks, written nearly two years ago, I must now add my altered belief that the *Tarikh i Tabarí*, mentioned in the catalogue, is nothing else than Colonel Baillie's MS. of the *Jámi al Tawárikh*. This I infer from the identity of the description given of both, and, above all, from the number of pictures agreeing in both. The doubts which I might feel as to the genuineness of Tabarí's autograph, do

* It runs thus,—*Ferisht Khootab Khaona Ferzada Kole*.

not apply to the *Jámi al Tawárikh*. Tabarí lived a thousand years ago; and Rashíd al Dín finished his history only as far back as a little more than half that period. That the *Jámi al Tawárikh* is really and truly what it purports to be, viz, the author's own copy, written under his own inspection, I have not the least reason to doubt, as I have seen manuscripts of an older date in as good a state of preservation. Should any of your readers feel sceptical on this point, they may easily satisfy themselves by carefully examining the hand-writing and paper, and comparing the same with others of the corresponding era."

D. F.

The Secretary noticed that he had made inquiries through friends in the North-Western Provinces to procure a copy of this highly valuable work, and had intimation of the existence of a copy of the 1st vol. in Arabic said to be at Lahore. He however believed that his correspondent (a native bookseller at Delhi) possessed the work himself. He had made some exertions to ascertain the condition of the volume, which he subsequently gave up.

The Secretary communicated the intelligence of the discovery of papers of value among certain MSS. volumes which were deposited with the late Mr. JAMES PRINSEP's books at the Society's Rooms. They consisted chiefly of MSS. of Capt. Herbert, the greater part of which were notes Astronomical, Chemical, and Geological, together with results of his Himalaya Survey, observations which was thought not to have been published. At any rate it was incumbent on the Society, thought the Secretary, to examine these papers carefully by a Sub-Committee; agreeably to that suggestion, Major FORBES, Professor O'SHAUGHNESSY, and Lieut. BROOME were requested to afford their valuable aid on the occasion. The Secretary further reported that among some old records of the Physical Class, Asiatic Society, were found several Catalogues of Minerals in the Museum, supposed to have been lost, of the collections by Coulthard, Rose, Streave, &c. &c.

The Secretary reported to the Meeting that some months ago he had communicated with MR. W. C. HURRY, on the subject of a Chinese Dictionary compiling by the REV. J. M. CALLERY, and that he had requested from that gentleman certain documents connected with the undertaking. These were now received, and submitted. It was resolved, that these should be referred to the Committee of Papers for consideration and report.

Read letter from MR. J. AVDALL, of the 5th March 1841, forwarding for presentation to the Asiatic Society, a copy of his "Victoria Spelling Book," in Armenian, divided into two parts, and embellished with 24 engravings.

Read the following report submitted by the Officiating Curator for the month of February last:—

"H. W. TORRENS, Esq.

Secretary Asiatic Society.

"Sir,

"I have the honour to submit as follows my report for the month of February.

"*Geological, Mineralogical, and Paleontological Departments.*—Proceeding at every spare moment, with Catalogues, of which a part are now at press : and with the numbering and arranging of collections.

"The two cases of specimens forwarded by the Honorable the Court of Directors, under the care of Captain TREMENHEERE, as a basis for a Museum of Economic Geology, have been imported, and their contents temporarily arranged ; but before putting the labels we have to fit up the interior of two out of the three cases. Another case is wanting to exhibit this collection properly, and several others to contain the additions we can make to the Museum from the Society's collections and from donations, and for those expected from England. The report on this collection has been made and sent in to you.

"We have some valuable additions to these departments, which will be noticed in the account of additions to the Museum.

"*Mammelogical, Ornithological, and Osteological Departments.*—Several additions, which will be detailed at the conclusion. I beg to report that we can make up another box for the Honorable the Court of Directors ; it will consist nearly as follows :—

"1. Skeleton of a Fox (Indian) prepared by us.

"2. A small box of fresh-water shells, being part of a collection presented by Mr. Stocqueler.

"3

{	50 Skins of Birds,
{	2 Skulls with horns,
{	5 Horns,
{	8 Fishes of the Indus,

 } Duplicates from Sir A. BURNES' Collection.

"I may suggest here that we point out to the Curator of the Museum of the Court of Directors, the great facility with which, if approved of by the Court, he might procure, in exchange for such specimens as he already possesses, some of the many which we require for the Museum of Economic Geology. It is scarcely possible to send home a skin of a bird, a skeleton, or a skull from India for which some duplicate may not be obtained in exchange, which would be of utility to us here.

"Three large cases of specimens have been sent down by Mr. CLARKE, Political Agent at Umballa, which upon examination prove to be the collections made by Sir A. BURNES, on his mission to Scinde, to which many of his drawings now in the hands of the lithographers relate. They seem unfortunately to have remained for the whole time without any care whatsoever, and many are wholly destroyed !

"Mr. Clarke informs us that the collection has been inspected by Dr. JAMESON, who has promised a report upon it. The contents of the chests were as follows :—

Birds.—retained for the Museum,	.. .. .	19
—— duplicates, to be sent home,	.. .. .	50
—— rotten, and thrown away,	.. .. .	22

Total, 91

<i>Sculls with Horns.</i> —for the Museum,	1
—— duplicates, for sending home,	6
Total,	7

<i>Horns.</i> —for the Museum,	2
—— duplicates, for sending home,	5
Total,	7

<i>Fish.</i> —for the Museum,	1
—— duplicates for sending home,	8
Total,	9

Porpoise skull, Alligator, Iguana, Lizard, Turtle, &c. altogether.	7
Snakes in spirits of wine, rotten and thrown away.	13
Skins of animals rotten and thrown away.	8

N. B. Claws and beaks of birds, and skulls of animals, preserved when worth doing so.

Fish Reptiles &c.— Nothing more to report.

“*Donations.*— Have been numerous and important. I have already noticed Sir A. BURNES’ collection, to which we have to add the following:—

Dr. SPILSBURY—a chest of Fossil bones from the Nerbudda.

Col. MACLEOD—two boxes, being series of geological specimens collected by the late Captain PEMBERTON on his mission to Bootan. No catalogue with them.

H. PIDDINGTON, *Acting Curator.*—A collection of Cotton, Coffee, Sugar, Tobacco, and Tea soils, &c. from India, Mauritius, United States, Singapore, &c. many of them analysed. 7 Specimens of Burdwan Iron ores analysed. Specimens of the earths used in the curious glazing of native Sugar-pans.

G. EWBANK, Esq.—A young panther. Skeleton for the Museum.

Mr. D. E. RODRIGUES.—A pink-headed Duck, *Fuligula caryophyllacea*—Museum.

Mr. H. P. VIERRE.—A Snipe, *Scolopax*?—Museum.

Purchased.—2 Wild Geese, *Anas indica* or black-hooded Goose. 1 Skeleton; 1 stuffed,—Museum. I have the honor to be, Sir,

CALCUTTA,

Your obedient servant,

1st March, 1840.

H. PIDDINGTON,

Actg. Curator, As. Soc. Museum.

The Society having been requested by Government, by a letter from Mr. Secretary Bushby of the 3rd February last, to submit a report of their Curator on the specimens brought by Captain Tremenheere, and deposited with the Society for the basis of a Museum of Economic Geology, and in what manner they were of opinion additions to the present collection may most usefully be made to it—Read the following report from Mr. H. PIDDINGTON, dated 26th February, 1841.

H. TORRENS, ESQ.

Secretary, Asiatic Society.

Sir,

In obedience to the commands of the Right Honorable the Governor General in Council, conveyed in Mr. Secretary BUSHBY's letter to you, under date 3rd February, I have now the honor to submit my report on the collection brought out by Captain TREMENHEERE, as a basis for the proposed Museum of Economic Geology. I should state perhaps, that Mr. BUSHBY's letter only reached me on the 10th instant, and that I have also been delayed by the necessity of referring to Captain TREMENHEERE's Memorandum, which I have only this day obtained from Bishop's College Press. I have incorporated with the report, my views as to the additions which may most usefully be made to the Museum, and as to the manner in which these may be best obtained. I remark, that the Society in general is referred to on these points, but as my ideas relative to them are necessarily connected with the facts and views comprised in the report, I have thought that I might, without presumption, and even with some convenience, as to perusal, combine them in one statement.

I.—The collection brought out by Captain TREMENHEERE, is a valuable basis for a Museum of Economic Geology, but it should be borne in mind, first, that it is only a commencement; and next, that it is almost a purely English collection. The little we yet know of Indian Geology has taught us that, on many points, there are wide differences from the received systems at home, extending even to the absence, or great rarity, of whole formations, and the presence of others which have no known corresponding types in Europe, or indeed in any part of the world; and it is quite possible that her mineralogy, when better known, may also produce its novelties. Hence we require,—if we wish to render our proposed Museum complete, as a light to the acquisition of existing knowledge, and a guide to future research, and this more especially in an economic point of view—a complete English and foreign series of specimens, by which the student and speculator may well understand their systems and processes, and a complete Indian one, fully to comprehend and avail ourselves of our own. I mention this in the first place, that I may not appear desirous of embracing too much, or to be remarking in any spirit of depreciation upon what the liberality of the Honorable the Court of Directors and the Government of India have allotted to the Society.

II. *Coal*.—The present collection comprises 51 specimens of coal and anthracite, from various coal fields. Those from several other English coal fields, as I learn from Captain TREMENHEERE's report, are to be sent out. To these I suggest should be added specimens from the Scotch, and if possible from the French, Belgian, and American coal fields; with a series of specimens from each, illustrating also the coal formations and pseudo-coal formations; as for instance, that of Brora in Sutherlandshire. As we improve our mining systems and our mining knowledge, we shall probably obtain better coal.* We require also a set of sections of the coal measures of

* It may be perhaps doubted if our Indian coal has yet had fair play! The amount of our experiments as yet seems to have been, the burning of Indian and English Coal upon grates and in furnaces made for the latter, and then to pronounce the Indian coal as inferior! It is so no doubt, but it *might* produce far better results in grates and in furnaces adapted to it, on the principle that every kind of coal requires a different arrangement of these, to produce its maximum effect. This remark is not perhaps exactly in place here, but the importance of the subject may excuse its introduction.

different districts. These are not always published, but many of those which are not so may perhaps be obtained for us by the Honorable Court, through Mr. DE LA BECHE, or by the efforts of members and friends of the Society through their connections at home.

I allude to American specimens here, and shall have occasion to do so again in the course of this report, because there are peculiarities connected with the Geology of both North and South America, which render every light obtainable from those countries of the greatest interest to us. The use of anthracite in mettrallurgical operations, is but recent in England, and I am not aware that it has yet been used there for steamers, though the Americans are said to use it very extensively in their steam-boats. Models of all kinds of anthracite furnaces are an object of much importance to India, where this combustile is so often found.

III. *Iron Ores and Smeltings*.—The collection comprises about forty specimens of iron ores, their lodes, smeltings, and slags. We must recollect, in relation to this most important metal, in which India is so rich, that a considerable portion of the Indian ores of it, are varieties of the black or *protoxided* class, as magnetic iron-ore, titaniferous iron-sand, iron, glance, &c. though we have, as in Burdwan, and many other places plenty of the other kinds, of the finest quality, while the majority of the English wrought ores belong to the Red and Brown, or *peroxided* and carbonated classes. Again: the whole system of English iron-smelting in the present day is one of smelting by coke; whereas the finest European irons, as the Swedish, Biscayan, Catalanian, some of the German, and all our fine Indian irons, are made by the charcoal process. Many of our rich ores are moreover situated where wood is abundant, and even a nuisance, and likely to be so for a long period of years; while coal (or coke) were it only from the want of roads, must be for a long time out of the question in such situations, to say nothing of the limestone.

Hence I should say, that it is a great desideratum in an Indian Museum, to possess specimens of the Spanish, Swedish, German, Corsican, Elbese, Pyreneean, and other ores of iron, of known fine qualities, worked by charcoal only, and often affording excellent iron at a single operation, as many of our simple native smeltings are known to do. As a guide to the Indian speculator, these ores, with descriptions or models of their furnaces, and full accounts of their processes (when these are not to be found in standard works of easy reference here) may be invaluable, as shewing him how to direct his efforts most advantageously and upon a scale, perhaps, better suited to his means than are the vast operations which the English iron-master, from the confined rates of profit, and excessive competition at home, finds indispensable. I may add in reference to this matter, that strange as it may appear to those unacquainted with the subject, there is scarcely any question of metallurgic chemistry upon which so little is known as that of the ores of iron!

IV. *Tin Ores*.—In this department the collection is very complete; from the lodes and ores, their roasting, stamping, washing, and smelting, down to the refuse of the furnaces. In a word, almost nothing is here wanting, and I embrace with pleasure this opportunity of saying that the mass of the specimens in all classes appears to be what may truly be called *working* specimens, as distinguished from the *show* specimens of the mineralogist's cabinets, and thus of much higher value for our purpose.

The Tin assortment consists of about 20 specimens of ores and lodes of various kinds, and of about 24 of the ore in various states of preparation, its smeltings, refuse, &c.

Tin is an ore little found except in England, or in the Eastern Islands, and Malayan Peninsula (we know nothing of the Tin mines of Mawar or Ava) but with such additions as we shall be able to make to the collection, from specimens already in the Museum, we may consider it as tolerably complete with respect to this metal. The desiderata are—good accounts of the Saxon and Bohemian works, and ores, with specimens. Of the Chinese and Malay Tin smeltings of the Eastern Islands, with samples of their ores; and specially of their refuse or slags, which last are probably well worth examination. It is said that both silver and gold have been found in them; and there is a description of Tin brought from Borneo, which is sold to the Chinese at Sooloo, and other places, for exportation, at a very high price; this is said to contain one or both of the precious metals. For our Eastern provinces, the investigation of every fact of this kind is of high importance.

V. *Copper*.—The copper ores are about seventy in number. They are also mostly an English assortment, comprising only the ores most usually found and worked in England. Several of the Indian, Asiatic,* and American copper-ores now in the Museum, will form valuable additions to this series. Our desiderata here are however numerous, we require some of the continental ores of Europe, and a series from South America, especially of those which exhibit the mixtures (or combinations) of copper and silver, or copper and gold. We are promised, I observe, as with the tin ores, samples of the English ore in all the stages of its progress, from the mine till it leaves the smelting house, with its slags, which are so instructive to the working speculator. But we require these both from England, where the smelting of copper is a separate trade, and the poorest ores are turned to the best account, and where all is performed by coke; and also from such countries as South America, many parts of Germany, &c. where charcoal alone is used. It is evident that even under the most scientific management, the modes of smelting, as governed by the fuel, must greatly influence results. The preceding remarks (at p. 9.) on the fuel, which may be available in certain situations, fully apply to copper as to iron works.

VI. *Lead Ores*.—We have but nine of these (of but one or two varieties) in the collection; and these again, with one or two exceptions, of the commonest kinds. Every thing therefore is to be acquired in this department. We can supply something as to Indian specimens from the Museum. The lead ores, independent of their value as lead, deserve high attention, particularly those of the argentiferous class, which in fact run into the silver ores, containing at times so much silver, as to render the lead of little or no importance.

VII. *Antimony, Manganese, Zinc, and Tellurium*.—We have in the collection but eight or ten specimens in all of the three first of these metals, though they are all of importance; we shall be able to supply a few from the Society's, but we may say pretty nearly, that every thing is wanting in this section. The Indian and Eastern ores of antimony are deserving of great attention, for none of them have been yet examined, and they are so commonly met with, that some will no doubt in the end be found to belong to the class of antimonial silver ores. I mention the auriferous Tellurium in the section on gold. Captain TREMENHEERE's paper announces, I observe, an assortment of ores and specimens relating to zinc and the manufacture of brass.

* *Asiatic copper ores*. With reference to my remarks at pp. 4 & 5, I may mention here as a confirmation, that we have in Colonel Burney's collection of minerals from Ava, an ore of copper (with the same half-roasted from the Burmese workings) which is certainly not a common one, and perhaps new to the English miner at least.

VIII. *Silver*.—We have but three of these ores, but we shall be able to supply several South American, and other specimens, from the Society's collections. We require, however, series of the European and American silver ores with their lodes, preparations, and smeltings. I mention particularly here, the Mexican and Peruvian silver ores, because some of them would, from their earthy appearance, and the small proportion of metal they contain, be passed by as mere red earthy soils or iron ores, which in fact they are. Some of these ores are from the staples of some of the great mines of Mexico and Peru, and it may be possible, that we have also deposits of these ores on the flanks of the Western Ghauts; or in other situations of which the geological features approach to those of South America, though upon a smaller scale.

“IX. *Gold*.—There are no ores of this metal in the collection, and but very few in the Museum. It is indeed generally obtained from washings, but it is of importance to us to have specimens of all its ores, particularly of the auriferous iron ores, and of the telluretted gold ores of Hungary, which so much approach those of antimony. We require also the alluvial and diluvial soils in which gold is found; and especially drawings or models of the American washing-frames, which are so extensively used at the gold-washings of Virginia, Georgia, and the Carolinas. These are cheap and effective, and perform so much work in a day, that many tracts which had formerly been abandoned by the gold-washers as too poor, have been washed over again to a good profit. It is evident that this is what is required for the gold-washings of Southern India, (and for the auriferous sands of our rivers, where labour, though cheap, is made dear by being applied in the expensive and wasteful process of hand-washings.

“X. *Quicksilver*.—There are no ores of quicksilver in the collection. We shall perhaps be able to supply one or two, but this metal is both so important as an article of commerce, and as an agent in the separation of the precious metals by amalgamation, that we should by all means obtain an assortment of its few ores, and specimens of the deposits in which they occur, from Spain, Idria, and South America. We shall not I hope be thought too sanguine if we hope that when the numerous carboniferous deposits of India are better known and studied, mercury may be found. We know that it exists abundantly in Yunan, most probably in the formations in which it has always, hitherto been found, and it is therefore quite possible that it may be found on our Eastern (Assam or Cachet) frontier. Like silver, one or two of its known ores might easily be passed over. The metallic-looking ores of any mineral we know, are sure to attract attention; it is the rubbish-like, earthy-looking ones, therefore, which specially demand a place in a Museum of Instruction.

“XI. *Arsenic*.—We should not omit to collect all the ores and lodes of this metal which so much abounds in India and to the eastward. Independent of its value as an article of commerce, its frequent association with the precious metals may induce a hope that a careful examination of its ores might lead to some discoveries. It is probable that we are yet far from knowing all the combinations of this *Proteus* of the metals with others.

“XII. *Bismuth, Cobalt, Chrome, and Nickel*.—The ores, lodes, and every sort of information relative to these metals, should not be neglected. Some of these are

but little known, and new ones it is possible may be discovered. The uses of some of them (Bismuth, Cobalt, and Nickel) are probably only limited by their prices, and what they, or other metals now almost considered as curiosities, might become, if more abundant, the history of Chrome fully testifies.

“ XIII. *Alum, Soda, Borax, Amber.*—Specimens of the Alum-slates of Europe, of the Soda earths of Egypt and India, of the Borax and Boracic acids of Italy and Thibet, and of the Indian ambers, are also desiderata. In reference to one of these only, I may mention that I have ascertained that the soda earths of India may be purified and discoloured by a very simple process, and thus great tracts of land now barren and valueless, may yield *crops* as valuable as the barilla-fields of Spain, or the kelp-shores of Scotland.

“ XIV. *Agricultural Geology.*—Captain TREMENHEERE’s report adverts so ably to the now well recognised importance of this branch of the science, that no remarks of mine in this respect are necessary. The collection contains a few specimens of soils from Cornwall, but there are no labels or descriptions with them. Capt. TREMENHEERE informed me, that on account of his hurried departure, he was not able to find his notes, but hoped to be able to send them to me. I have had the pleasure of contributing, from my own cabinet of soils, about forty specimens of Cotton, Sugar, Tobacco, and Tea soils ; many of which are analysed. These are from America, the Mauritius, Singapore, various parts of India, &c.; and I am advised by Mr. STIKEMAN, Secretary to the East India and China Association, that through the active assistance of Lord John RUSSELL and Sir John CAM HOBHOUSE, a chest of West India Sugar soils is now on its way to me on the ship “ Lord Melbourne,” for the purpose of comparative analysis with those of India and the Mauritius. A great desiderata here are Sugar soils from the valley of the Mississippi, and from Demerara ; for it is evident, that for Bengal the analogy mainly to be looked for is that between soils forming, as here, the alluvion of rivers. The volcanic soils are more likely to prove guides for those of Central and Western India. It should be borne in mind that we require for India not only the soils for tropical productions, but those also for the productions of temperate climates. At this moment, for example, one of the most valuable acquisitions we could obtain, would be a few specimens of soils from the hop gardens of Kent and Sussex ! as a guide to the gentlemen who are so zealously endeavouring to introduce that valuable plant.* In this department, then, nothing can come amiss to us ; for we may always dispose most advantageously of every thing. I forbear, for the sake of brevity, entering into the list of what we principally require.

“ XV. *Mineral Manures.*—The Mineral manures, from the peat of the jheels, so extensively used in India, to gypsum, which is now the main support of a large portion of the agriculture of the older American states, though its use is unknown here, should not be omitted in our collection. The kunkers of all kinds might, there is no doubt, be often available as a valuable manure, if their use as such was known.

* Specimens of the soils of the best sheep-pastures from England, Germany, Spain, and particularly New South Wales, would be also valuable guides ; for it is certain that the quality of wool depends as much on the soil as on the grasses.

“XVI. *Architectural Geology*—*Stones employed for Architectural or Engineering purposes ; Ornamental Stones, as Marbles, &c.*—Of these the collection contains but one or two specimens. We have many of cornices, capitals, and images, which would afford much instruction, though the antiquity of but very few of them can be known. The conditions of climate here are so different from those of Europe, that it may be difficult to establish correct comparative views, though we need not on that account neglect European specimens, and the results of their experience. We require however, more especially, specimens of stones, bricks, and marbles from ancient Indian buildings and fortifications ; with, of course, the dates of their erections, when these can be ascertained. These it should be remembered are desirable both when they have well, and when ill withstood the effects of the climate ; for both are lessons to the architect. It should be carefully noted if they appear ever to have been protected by plaster, paint, or casing ; specimens from more recent erections, particularly where exhibiting signs of early decay, should not be neglected. The tomb-stones of the early European settlements might perhaps afford good practical lessons in this respect. The church of Bandel bears, I think, the date of 1680, and it is possible that many tombs of at least a century old, might be found, either European or native, of various materials.

“The foregoing remarks hold good for the ornamental stones and marbles. Our Museum affords a very few of these, and a geological series of specimens from the sandstone quarries of Chunar, by Captain FRANKLIN.

“XVII. *Mortars and Cements.*—We have nothing of this kind in the collection, nor in the Museum, as far as I have yet seen ; but the field which these afford for curious and profitable research, and the great public and private advantage to be derived from a thorough investigation of it, is immense. It would appear that many of the native cements of former times were, like those of the ancient Romans, even more durable than the brick or stone with which they were used, and very far superior to any thing which can now be made, even with the greatest care. It is then, well worth our attention to procure also from the ancient buildings, both of India and Europe, specimens of the mortars and cements. All the limestones which can be obtained, from the kunkurs up to the pure marbles, are of course desiderata, as being the raw material of the cements. I should add to these, specimens of the corals, and of the fresh and salt-water shells so extensively used for making lime in India. We are quite ignorant as yet of what may be the effect of mixing the shell and stone limes in various proportions ; of what is owing to the Silica alumina, and oxides of iron in the kunkurs, to the phosphates (from the shells or the iron of the kunkurs) and to all these with the various proportions of lime and magnesia, which form the bases of the cements. These are great objects of research, for which the first requisite is to have series of specimens at hand ; without which they must always be imperfectly examined, and most frequently will not be so at all.

“XVIII. *Materials for Road Making.*—These, I need not say, are of primary importance. It is true that expence frequently prevents their being carried far, though sometimes a road may carry the materials for its own extension. But there is another point of view in which the collection of both good and bad materials for road-making may be important, when the subject comes to be

scientifically considered. I mean that of the *combinations* of the different materials to be found at hand, or made at a small expence;—thus, we know that throughout the great basaltic district of India the elements of the Puzzolanas are every where found. We know that durable roads have been constructed of volcanic materials. We know that minute proportions of ferruginous or calcareous matters have often extraordinary effects in consolidating earthy materials. But of what is available, or how it should be used, in any given part of the country, we are totally ignorant. It is evident that Indian road-making requires, if possible, more than the careful aggregation of materials to resist the torrents of the rains, and the heats of the dry weather. It is probable that it is yet a science to be *created* between the chemist and the engineer.*

“XIX. *Plastic Geology.*—*Clays and earths for pottery and other manufactures.*—Of these we have none in the collection, and none, particularly so described in the Museum. Our first requisites are series of the English and other European pottery-clays, and of those from China, if obtainable. The scouring and pigment earths, and fire clays, of all kinds, are also required. Very good fire clays are found in Burdwan, Rajmahl, and near Moorshedabad. I have been able to contribute specimens of the earths used in the curious red varnish of the native sugar-pans, which is of extraordinary durability.

“Apart from the improvement of our domestic manufactures, it is quite possible that some of our Indian clays may well pay for exportation.

“XX. With respect to how all these desiderata may be best obtained, the Society should, it is evident, first make known its wants, both in Europe and in India, by printing detailed memoranda, and offering exchanges where these can be desirable. From Europe we may doubtless count greatly upon the liberality of the Hon’ble the Court of Directors, and that of the many old and tried friends to India who seek but to know how they can best serve her. Scientific Institutions, and such associations as the Royal Agricultural Society† will no doubt be ready to meet our wishes. As a matter of purely commercial interest also, we must not forget to address the Chambers of Commerce, and the principal commercial houses connected with India both in England, on the Continent, and in America. There are doubtless many gentlemen amongst these who only desire to find individuals or public bodies ready to receive their suggestions and contributions, and assist their inquiries.

“In India we shall doubtless find many mercantile men, and members of the Services, ready to move their friends at home, or in various parts of India, in our behalf. To Capt. TREMENHEERE’s suggestions of assistance from Officers and Assistants of the Revenue Surveys, I should add, that we may obtain much from the principal and subordinate Collectors of all ranks, the Civil Surgeons, Planters, &c. and I doubt not that it will be the pride of the Society to see justice done to their contributions.

* The recent introduction of Asphatum as a material for roads and pavements will occur here as a case in point.

† I am not sure that this is the correct title of this body.

“ The foregoing report will I fear be thought too long, though I have endeavoured, by abstaining almost wholly from explanatory notes and quotations in support of some of the views advanced, to make it as brief as possible. It will not I hope be forgotten how vast are the questions to which almost every paragraph of it leads. I have adverted in it, more than once to the high importance of the proposed Museum, in common with all institutions of the kind, as affording a ready access to much of what the student and speculator could not otherwise hope to obtain a sight of. I would farther remark, for this cannot be too well borne in mind, that in India we require, of necessity, *much more* assistance than in Europe, to prosecute successfully researches of this kind. We require this from the vast unexplored fields on all sides, and because the labourers in them are so few, and so liable to be interrupted by illness or change of residence, that, unless the objects of research are within their immediate reach, the mere time occupied in collecting them involves a thousand chances of fatal interruptions. We require it, moreover, because it so seldom occurs in India that the talent, the time, and the pecuniary means, are all found together. Those who have the time and the talent, lack the means; and those who have amply the means and the knowledge, can rarely afford the time, unless at the sacrifice of their health, of which we all know more than one melancholy example. It is thus that so little has been done by the English in India in the way of researches of this kind, and that we have often, unjustly enough, borne the reproach of indifference or of ignorance. It is thus I would then respectfully urge, that we require far more assistance than in Europe, where, from the abundance of talent, means, disposable time, settled modes of life, great facilities of communication, and of reference; and almost perfect knowledge of every existing resource, the student or speculator has, so to say, a mere pastime, in comparison with the difficulties which beset him in India:—India! a field of research so vast, that no man can even guess the extent of it; and he would be a bold one who would venture to pronounce to what its investigation may not yet lead us.”

Calcutta,
ASIATIC SOCIETY'S ROOMS,
26th February, 1841.

I have the honor to be,
Sir,
Your obedient, humble Servant,
H. PIDDINGTON,
Actg. Curator As. Soc. Museum.

It was resolved—That a copy of this interesting document be forwarded to Mr. Secretary BUSHBY, for submission to the Right Honorable the Governor of Bengal.

The President noticed the presentation of the plan and section of the Ghaut about to be constructed to the memory of the late James PRINSEP, Esq. by R. H. RATTRAY, Esq.

Resolved—That Mr. RATTRAY be thanked for the same, and that it be hung up in the rooms of the Asiatic Society, as requested by that gentleman.

For the presentations and contributions, the thanks of the Society were accorded.